

*L.A.B. 112/200*

**We Claim:**

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1. A telecommunication architecture comprising:

*a network for carrying communications between subscribers;*

*at least one terminal agent executing on said network that interfaces said network with a terminal;*

*at least one subscriber agent executing on said network that belongs to one of said subscribers, said subscriber agent having a terminal identifier for pointing said subscriber agent to one of said terminal agents, such that said one of said subscribers can establish a communication over said network from a terminal respective to said one of said terminal agents.*

2. A switch comprising:

*at least one subscriber line interface for connection to a respective terminal;*

*a network interface for connection to a network;*

*15 a processing unit interconnecting said subscriber line interface and said network, said processing unit being operable to execute a subscriber agent associated with a subscriber and a terminal agent respective to each terminal;*

*20 said subscriber agent for identifying said subscriber to said network and being configurable to point to said terminal agent in order to carry communication between said network and said terminal agent; and,*

*said terminal agent for managing, via said subscriber line interface, communications between said terminal and said processing unit according to said terminal's capabilities such that a subscriber using said terminal can conduct a communication over said network.*

25 3. The switch according to claim 2 wherein said terminal is a telephone.

4. The switch according to claim 2 wherein said terminal is a rich-featured telephone having a graphical display.

5. The switch according to claim 2 wherein said terminal is a wireless telephone and said

switch is a wireless base station.

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6. The switch according to claim 2 wherein said terminal is a pager.

5 7. The switch according to claim 2 wherein said terminal is a personal digital assistant.

8. The switch according to claim 2 wherein said terminal is a voicemail server.

9. The switch according to claim 2 wherein said terminal is a point-of-purchase terminal.

10 10. The switch according to claim 2 wherein said network is the PSTN.

11. The switch according to claim 2 wherein said network is the Internet.

15 12. The switch according to claim 2 wherein said subscriber agent includes said subscriber's name.

13. The switch according to claim 2 wherein said subscriber agent includes a set of calling features belonging to said subscriber.

20 14. The switch according to claim 13 wherein said calling features are accessible by said subscriber at any terminal to which said subscriber agent points.

15. The switch according to claim 13 wherein said calling features include at least one of caller-id, call waiting, speed calling, call privacy, visual call waiting, and call privacy.

25 16. The switch according to claim 13 wherein said calling features includes call forwarding that is implemented by configuring said subscriber agent to a desired terminal agent.

Call waiting  
Visual call waiting

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17. A software structure executable on a switch having a processing unit that interconnects a network and at least one terminal, comprising:

5 at least one terminal agent that manages communications with a respective one of said terminals according to its capabilities; and,

10 a subscriber agent associated with a subscriber, said subscriber agent being configurable to point to one of said terminal agents and operable, when executing on said switch, so that said subscriber can establish a communication over said network from a terminal respective to said terminal agent.

15 18. The software structure according to claim 17 wherein said terminal is a telephone and wherein said communication is a voice telephone call.

20 19. The software structure according to claim 17 wherein said terminal is a personal computer.

25 20. The software structure according to claim 17 wherein said terminal is a wireless telephone and said switch is a wireless base station.

21. The software structure according to claim 17 wherein said terminal is a pager and wherein said communication includes a paging message.

22. The software structure according to claim 17 wherein said terminal is a personal digital assistant.

23. The software structure according to claim 17 wherein said terminal is a voicemail server.

25 24. The software structure according to claim 17 wherein said terminal is a point-of-purchase terminal and wherein said communication includes a purchase authorization.

25. The software structure according to claim 17 wherein said network is the PSTN and said

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switch includes a PSTN gateway.

26. The software structure according to claim 17 wherein said network is the Internet.

5 27. The software structure according to claim 17 wherein said subscriber agent includes said subscriber's name.

10 28. The software structure according to claim 17 wherein said subscriber agent includes a set of calling features belonging to said subscriber.

15 29. The software structure according to claim 28 wherein said calling features are accessible by said subscriber at any terminal capable of supporting said features and to which said subscriber agent points.

20 30. The software structure according to claim 28 wherein said calling features include at least one of caller-id, call waiting, speed calling, call privacy, visual call waiting, and call privacy.

25 31. The software structure according to claim 28 wherein said calling features includes call forwarding that is implemented by pointing said subscriber agent to a desired terminal agent.

30 32. A method for setting up an incoming call to a subscriber comprising the steps of:  
receiving a request to establish said call with said subscriber;  
obtaining a profile of said subscriber;  
selecting a terminal appropriate to said call according to criteria stored in said profile;  
and.  
connecting said call to said terminal.

33. A method of associating a subscriber with a terminal comprising the steps of:

receiving a request from a subscriber to be associated with a terminal;  
obtaining a profile of a subscriber who submitted said request; and,  
updating said profile to indicate that calls for said subscriber are to be directed to said terminal.

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34. The method according to claim 32 further comprising the step of:  
providing calling features for said subscriber at said terminal in accordance with calling features listed in said profile.

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35. A method for setting up an outgoing call from a subscriber comprising the steps of:  
—receiving a request to establish a call from a terminal;  
—obtaining a profile of a subscriber who submitted said request; and  
—connecting said call in accordance with criteria listed in said profile.

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36. The method according to any of claim 32 wherein said profile is a subscriber agent.

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37. The method according to any of claim 32 wherein said selecting step includes selecting a terminal agent that manages communications with said terminal and said connecting step includes pointing said subscriber agent to said terminal agent and establishing said connection according to said pointer.

38. The method according to claim 37 wherein said terminal agent is further operable to manage said communication in accordance with the capabilities of said terminal.

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39. The method according to any of claim 32 wherein said terminal is a telephone.

40. The method according to any of claim 32 wherein said terminal is a personal computer.

41. The method according to any of claim 32 wherein said terminal is a wireless telephone.

42. The method according to any of claim 32 wherein said terminal is a pager.

43. The method according to any of claim 32 wherein said terminal is a personal digital assistant.

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44. The method according to any of claim 32 wherein said terminal is a voicemail server.

45. The method according to any of claim 35 wherein said terminal is a point-of-purchase terminal and wherein said communication includes a purchase authorization.

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46. The method according to any of claim 32 wherein said subscriber agent includes said subscriber's name.

47. The method according to claim 34 wherein said calling features include at least one of caller-id, call waiting, speed calling, call privacy, visual call waiting, and call privacy.

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48. The method according to claim 34 wherein said calling features includes call forwarding.

49. The architecture according to claim 1, wherein said subscriber is an individual.

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50. The architecture according to claim 1, wherein said subscriber represents a group of persons.

51. The architecture according to claim 50, wherein said group is corporation.

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52. The architecture according to claim 50, wherein said group is a technical assistance center.

53. The architecture according to claim 1, wherein said subscriber is an individual.

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54. The method according to claim 32 wherein said subscriber represents a group of persons.

55. The method according to claim 50 wherein said group is a collection of network operators.

56. The method according to claim 50 wherein said group is a '911' call center.

10 57. A method for associating a subscriber with a terminal comprising the steps of:  
receiving an identification of a subscriber from a terminal to set up a call;  
retrieving a subscriber profile corresponding to said identity; and,  
providing calling privileges to said subscriber according to said profile.

15 58. A method for setting up a call comprising the steps of:  
receiving an identification of a subscriber from a terminal to set up a call;  
retrieving a subscriber profile corresponding to said identity;  
receiving a request from subscriber to set up a call;  
verifying said request is in accordance with calling privileges in said profile; and,  
establishing said call if said request is verified.

20 A 59. The architecture according to claim 1, wherein said subscriber agent is identifiable by  
said subscriber's telephone number.

25 60. The method according to claim 32 wherein said step of receiving request to establish  
said call includes the step of providing said subscriber's telephone number.